

CONTENTS OF VOLUME 25

Vol. 25, No. 1

General Papers

- | | |
|--|--|
| Kitt Falk Petersen and Niels Grunnet | 1 Gluconeogenesis in hepatocytes determined with [2- ¹³ C]acetate and quantitative ¹³ C NMR spectroscopy |
| Maria Luisa Bonet,
Francisco Ignacio Llorca
and Eduardo Cadenas | 7 Evidence that the alkaline <i>p</i> -nitrophenylphosphate phosphatase from <i>Halobacterium halobium</i> is a manganese-containing enzyme |
| Li Cheng Xu, Peter R. Sinclair and
Edward Bresnick | 13 Induction of cytochrome P450IA1 and its recombinant construct in H4IIE rat hepatoma cells |
| Elizabeth M. Duncan,
Lynn J. Tunbridge and
John V. Lloyd | 23 An increase in phosphatidic acid in the absence of changes in diacylglycerol in human platelets stimulated with ADP |
| J. Liu, Z. Fekete, A. Slomiany and
B. L. Slomiany | 29 Activation of gastric mucosal calcium channels by epidermal growth factor |
| Anelia Angelova, Zoja Borissova,
Filka Avramova, Vera Simeonova
and Margarita Stambolova | 37 HMG-2 protein in developing rat brain cells |
| Eric C. Dietze, Eiichi Kuwano
and Bruce D. Hammock | 43 The interaction of cytosolic epoxide hydrolase with chiral epoxides |
| Shuji Seki, Aya Takata,
Takashi Nakamura,
Kosuke Akiyama and
Sekiko Watanabe | 53 A possible cause of heterogeneity of mammalian apurinic/apyrimidinic endonuclease |
| Concepción García-Alfonso,
Emilia Martínez-Galisteo,
Antonio Llobell, J. Antonio Bárcena
and Juan López-Barea | 61 Horse-liver glutathione reductase: purification and characterization |
| Hideaki Itoh and Yohtalou Tashima | 69 Physicochemical property of bovine brain 73-kDa stress protein |
| Allen R. Rhoads, Ngoc-Diep Vu
and Alan G. Carroll | 79 Small membrane-associated GTP-binding proteins of catecholamine-secreting cells |
| Mario A. Kuroda and Adela Cuéllar | 87 Deleterious effects of disulfiram on the respiratory electron transport system of liver mitochondria |
| Hideaki Itoh, Yohtalou Tashima,
Yoshinobu Eishi and Riki Okeda | 93 Localization of HSP90 in rat brain |
| Gen-ichi Tajima and Keiji Shikama | 101 Decomposition of hydrogen peroxide by metmyoglobin: a cyclic formation of the ferryl intermediate |
| Lidia Włodek, Maria Wróbel and
Jerzy Czubak | 107 Transamination and transsulphuration of L-cysteine in Ehrlich ascites tumor cells and mouse liver. The nonenzymatic reaction of L-cysteine with pyruvate |
| W. R. Den Tandt, S. Scharpe
and B. Overdijk | 113 Evaluation on the hydrolysis of methylumbelliferyl-tetra- <i>N</i> -acetylchitotetraoside by various glucosidases. A comparative study |

Contents

Book Reviews	121
New Patents Section	i

Vol. 25, No. 2

Review

T. Cserhádi and M. Szögyi	123	Interaction of phospholipids with proteins and peptides. New advances III
---------------------------	-----	---

Minireview

Tomasz Siminiak and Takayuki Ozawa	147	Neutrophil mediated myocardial injury
------------------------------------	-----	---------------------------------------

General Papers

Hideaki Itoh and Yohtalon Tashima	157	Domain structure of the 90-kDa stress protein: heparin- and antibody-binding domain
John A. Donohoe, Franklin L. Rosenfeldt, Christopher M. Munsch and John F. Williams	163	The effect of orotic acid treatment on the energy and carbohydrate metabolism of the hypertrophying rat heart
Kazunori Fukuda and Jen-Fu Chiu	183	A tumor-associated 120 kDa nuclear protein: characterization using a monoclonal antibody and a partial cDNA clone
Joe O'Connell, Helen M. Sheehan and Shawn Doonan	201	Construction of cDNA libraries from cultures of <i>Armillaria mellea</i>
W. R. Den Tandt and S. Scharpé	209	Micromethod determination of <i>N</i> -acetyl- α -D-glucosaminidase in human leukocytes and study of some of its characteristics
C. Fernandez-Mejia, S. H. Polmar, O. Peralta-Zaragoza and V. Madrid-Marina	213	Analysis of purine metabolic enzymes in human CD4 Leu 8- and CD4 Leu 8+ lymphocyte subpopulations
Elisabeth P. C. Kilsdonk, Amelia N. R. D. Dorsman and Arie van Tol	219	Effect of LCAT on HDL-mediated cholesterol efflux from loaded EA.hy 926 cells
Peter Nielsen, Jochen Düllmann, Uwe Wulfhekel and Hellmuth C. Heinrich	223	Non-transferrin-bound-iron in serum and low-molecular-weight-iron in the liver of dietary iron-loaded rats
Shun-ichi Kaneko, Tetsuroh Ichiba, Naoto Hirano and Akira Hachimori	233	Modification of tryptophan 149 of inorganic pyrophosphatase from <i>Escherichia coli</i>
Yasuko Shibata, Yoshimitsu Abiko, Yoshiko Moriya, Wataru Yoshida and Hisashi Takiguchi	239	Effects of transforming growth factor- β on collagen gene expression and collagen synthesis level in mineralizing cultures of osteoblast-like cell line, MC3T3-E1
Tzi Bun Ng, W. Y. Chan and Patrick P. L. Tam	247	Correlation of acid phosphatase but not alkaline phosphatase activity with myelination in the developing mouse brain
Tania Markovska, Svetlana Koshlukova, Albena Momchilova, Roumen Pankov and Emil Yanev	253	Influence of carbicron (<i>O</i> -[(2-butenic acid)- <i>N,N</i> -dimethylamide-3-yl] <i>O,O</i> -dimethylphosphate) on some biochemical and biophysical parameters of rat liver membranes
B. L. Slomiany, V. L. N. Murty and A. Slomiany	259	Structural features of carbohydrate chains in human salivary mucins
Edward K. Johnson and Charlotte L. Ownby	267	Isolation of a hemorrhagic toxin from the venom of <i>Agkistrodon contortrix laticinctus</i> (Broad-Banded Copperhead) and pathogenesis of the hemorrhage induced by the toxin in mice

Contents

Vladimir Leskovac, James O. Peggins III, Svetlana Trivić, Jasmina Svirčević, Mirjana Popović and Milanko Stupar	279	Reduction of 1-nitroso-2-naphthol by NADPH in the presence of liver microsomes
New Patents Section	i	
		Vol. 25, No. 3
<i>Minireviews</i>		
Harvey N. Rubin and Mostafa N. Halim	287	Why, when and how does the poly(A) tail shorten during mRNA translation?
Rivka Beitner	297	Control of glycolytic enzymes through binding to cell structures and by glucose-1,6-bisphosphate under different conditions. The role of Ca ²⁺ and calmodulin
Hiroshi Takagi	307	Protein engineering on subtilisin
<i>General Papers</i>		
M. Christofidou, N. K. Karamanos, A. C. Mintzas, G. Dimitracopoulos and E. D. Anastassiou	313	Occurrence of a 29 kDa polysaccharide in the slime layer of both smooth and rough strains of <i>Pseudomonas aeruginosa</i>
Abdulaziz A. Al-Jafari	319	The inhibitory effect of tetramethylethylene diamine on water soluble and membrane bound acetylcholinesterase activity
E. Payan, J. Y. Jouzeau, F. Lapique, N. Muller and P. Netter	325	Hyaluronidase degradation of hyaluronic acid from different sources: influence of the hydrolysis conditions on the production and the relative proportions of tetra- and hexasaccharide produced
Kenan Gu, R. Erik Edens, Kenneth A. Jandik and Robert J. Linhardt	331	Monoclonal antibodies prepared against heparin lyase I and their reactivity toward heparin lyase I, II and III
Michael T. C. Liang, Patricio Meneses, Thomas Glonek, Stephen J. Kopp, Dennis J. Paulson, Frederic N. Schwartz and Louis W. Gierke	337	Effects of exercise training and anabolic steroids on plantaris and soleus phospholipids: a ³¹ P nuclear magnetic resonance study
D. Gastaldi, E. Pessione, A. Vanni and C. Giunta	349	Metal-enzyme interactions in ADH1 from <i>Kluyveromyces marxianus</i>
José L. Gómez-Skarmeta, Rafael Peñafiel, Jesús D. Galindo and José A. Lozano	353	Inactivation of ornithine decarboxylase by intermediates of tyrosinase-catalyzed reaction
Yasuhiro Ono, Shuji Seki, Kosuke Akiyama, Sekiko Watanabe, Tomohisa Furuta and Takashi Ohmoto	359	Expression of a putative catalytic domain of the human APEX nuclease (a major apurinic/apyrimidinic endonuclease) in <i>Escherichia coli</i>
Nanette Smith, Ryno J. Naudé and Willem Oelofsen	367	Kinetic and thermodynamic characterization of ostrich (<i>Struthio camelus</i>) trypsins and chymotrypsins
Francisco J. López-Gómez, M. Eugenia Torres-Márquez and Rafael Moreno-Sánchez	373	Control of oxidative phosphorylation in AS-30D hepatoma mitochondria
Munir A. Sheikh and Donald A. Robb	379	Measurement of non-enzymic glycosylation with a radio- chemical assay
V. K. Srivastava, M. D. Schroeder and D. L. Busbee	385	Characterization of DNA polymerase α from untransformed and pSV3.neo-transformed human fibroblasts

Contents

Robert M. McGrath, Ann Smith, Simone Banister, John Monoyioudis and Heidi R. Grimmer	397	The binding of large molecular mass procyanidins from bird resistant sorghum grain to soluble proteins
Sima H. Greenberg-Levy, Pierre Budowski and Shlomo Grossman	403	Lipoxygenase and other enzymes of arachidonic acid metabolism in the brain of chicks affected by nutritional encephalomalacia
T. X. Dong, T. B. Ng, Ricky N. S. Wong, H. W. Yeung and G. J. Xu	411	Investigation of hemagglutinating activity in seeds of various <i>Trichosanthes</i> species (family Cucurbitaceae) and comparison of lectins isolated from seeds and tubers of <i>Trichosanthes kirilowii</i>
T. X. Dong, T. B. Ng, Ricky N. S. Wong, H. W. Yeung and G. J. Xu	415	Ribosome inactivating protein-like activity in seeds of diverse Cucurbitaceae plants
P. Bellemin-Magninot, G. Azzar, R. Létoublon and R. Got	421	Evidence for incorporation of N-acetylglucosamine in endogenous nuclear acceptors during the nuclear matrix preparation
Leandro B. Rodríguez-Aparicio, José M. Luengo, Miguel A. Ferrero and Angel Reglero	427	Comparative analysis of the antibodies against capsular polysaccharides of <i>Escherichia coli</i> K-92 and K-235: an immunochemical method for the identification of polysialic acids
Ron H. N. van Schaik, Christa D. M. A. van den Koedijk, Fred W. Neijls, Anton J. Aarsman and Henk van den Bosch	433	Monoclonal antibodies against rat liver mitochondrial phospholipase A ₂ : epitope analysis and application in Western blotting
Stephan P. Persengiev and Stanimir Kyurkchiev	441	Selective effect of melatonin on the proliferation of lymphoid cells
C. Rimington, A. Rønnestad, V. Iani, J. Moan and A. M. Lawson	445	Reaction of isohematoporphyrin with 1-bromoalkanes
Michael P. T. Gillett, Eliane M. Vieira and Roberto Dimenstein	449	The phospholipase activities present in preheparin mouse plasma are inhibited by antiserum to hepatic lipase
Book Reviews	455	
New Patents Section	i	

Vol. 25, No. 4

Minireviews

Michael A. Lea	457	Regulation of gene expression in hepatomas
P. O. J. Ogbunude and H. P. Baer	471	Nucleoside transport in parasites—current status and methodological aspects
Philippe Chevallier	479	Pest sequences in nuclear proteins

General Papers

A. L. Barsoum and J. H. Coggin Jr	483	Purification and partial characterization of 200 kDa oncofetal antigen from radiation induced murine lymphocytic lymphoma
Yasuhisa Tsujimoto, Hideki Hashizume and Muneyoshi Yamazaki	491	Superoxide radical scavenging activity of phenolic compounds
Paul S. Foster and M. A. Denborough	495	The effect of calcium channel antagonists and BAY K 8644 on calcium fluxes of malignant hyperpyrexia-susceptible muscle
Gabriele Knipping, Albin Hermetter and Michael R. Hubmann	505	Interaction of <i>N</i> -methyl-anthraniloyl-labelled porcine apolipoprotein A-I with porcine lecithin:cholesterol acyltransferase: an energy transfer study

Contents

Concepción García-Alfonso, Emilia Martínez-Galisteo, Antonio Llobell, J. Antonio Bárcena and Juan López-Barea	513	Regulation of horse-liver glutathione reductase
Ludmiła Żylińska and Lilla Lachowicz	521	Serotonin, histamine and somatostatin modulation of PMA-stimulated phosphorylation of 130 kDa Ca^{2+} pump-like protein from rat cerebellum synaptosomal membranes
Arturo Panduro, Jaime Valencia and Marcos Rojkind	525	Induction of prothrombin biosynthesis and inhibition of gamma carboxylase activity in experimental models of liver regeneration and fibrosis
Brigitte H. Keon, Debabrota Ghosal and Thomas W. Keenan	533	Association of cytosolic lipids with fatty acid synthase from lactating mammary gland
A. E. Page, A. R. Hayman, L. M. B. Andersson, T. J. Chambers and M. J. Warburton	545	Degradation of bone matrix proteins by osteoclast cathepsins
Primitivo Barja and Manuel Freire	551	Distribution of serine esterase activity in the lymphoid system of C57BL/6 mice, effect of aging on the enzymatic activity
Shereen Hakki, Marlys Crane, Michel Hugues, Peter O'Hanley and Scott A. Waldman	557	Solubilization and characterization of functionally coupled <i>Escherichia coli</i> heat-stable toxin receptors and particulate guanylate cyclase associated with the cytoskeleton compartment of intestinal membranes
Henryk Witas, Cezary Watała, Krystyna Jędrychowska and Wojciech Piasecki	567	Cystic fibrosis—V. Does cystic fibrosis alter the values of dynamic parameters of erythrocyte membrane ghosts?
F. R. M. van der Klis and W. M. Wiersinga	575	PLA_2 activity in rat liver nuclei
Susan-Claire B. Richardson and Michael J. Fisher	581	Characterization of phenylalanine hydroxylase from rat kidney
Jörg-Michael Chemnitz, Thomas Manglitz, Martin Kloeppel, Torsten Doenst, Peter Schwartz, Heinrich Kreuzer and Ronald Zech	589	Rapid preparation of subsarcolemmal and interfibrillar mitochondrial subpopulations from cardiac muscle
Ruth Nussinov	597	Strong sequence patterns in eukaryotic promoter regions: potential implications for DNA structure
Linley R. Schofield and Roy M. Daniel	609	Purification and properties of a β -1,4-xylanase from a cellulolytic extreme thermophile expressed in <i>Escherichia coli</i>
M. Salleh M. Ardawi and Samir M. Khoja	619	Effects of hyperthyroidism on glucose, glutamine and ketone-body metabolism in the gut of the rat
Book Reviews	625	
New Patents Section	i	
<i>General Papers</i>		
Kazuo Fujisawa, Yoshinao Katsumata and Masataka Yoshino	627	Human seminal phosphatase. Properties and comparison with plant phosphatases
Toshihiko Umei, Norihiko Ohhara, Seiichi Okamura, Mine Harada, Masayuki Nakao, Takeshi Shirai and Yoshiyuki Niho	631	Activation of neutrophils NADPH oxidase by PMA: cytosol activity is translocated in phorbol-primed neutrophils

Vol. 25, No. 5

Contents

Godwin Ogbonna, Andre Theriault and Khosrow Adeli	635	Hormonal regulation of human apolipoprotein E gene expression in HepG2 cells
D. Mathiasen, L. M. Røssum, I. M. Robinson, R. D. Burgoyne, J. M. East, M. Møller, H. N. Rasmussen and M. Treiman	641	Isolation of chromaffin cell thapsigargin-sensitive Ca^{2+} store in light microsomes from bovine adrenal medulla
Ernest G. Loten, Judith A. Smith and Leonard Jarett	653	Activation and inhibition of insulin receptor autophosphorylation by trypsin treatment of intact H35 cells
John P. Harrington and Lorna Keaton	661	Unfolding and release of heme from human hemoglobins A, S and F
John P. Harrington, Paige Newton, Tiffany Crumpton and Lorna Keaton	665	Induced hemichrome formation of methemoglobins A, S and F by fatty acids, alkyl ureas and urea
M. I. Appley, H. H. Daron and J. L. Aull	671	Interaction of pyridoxal phosphate with thymidylate synthase: spectral and equilibrium dialysis studies
B. L. Slomiany, J. Piotrowski, A. Czajkowski and A. Slomiany	681	Control of mucin molecular forms expression by salivary protease: differences with caries
Toshikatsu Nakabayashi, Youko Matsuoka, Ryo Taguchi, Hiroh Ikezawa and Yukio Kimura	689	Proof of alkaline phosphodiesterase I as a phosphatidylinositol-anchor enzyme
Sebastiano Colombatto and Maria Angelica Grillo	697	Okadaic acid inhibits insulin stimulation of both ornithine decarboxylase and spermidine transport in hepatocyte cultures
Alessandra Baracca, Giancarlo Solaini, Giovanni Dinelli, Giovanna Parenti Castelli and Giorgio Lenaz	701	Diffusion limited component of mitochondrial $\text{F}_1\text{-ATPase}$
Ana Maneva, Borislava Taleva, Vladi Manev and Ljuben Sirakov	707	Lactoferrin binding to human platelets
M. Dam Trung Tuong, F. Vargas, F. Brion and O. Frerot	713	Subcellular and developmental studies of the tyrosyl protein sulfotransferase in rat brain
Q. J. Luo, J. C. MacRae and P. W. D. Scislowski	719	Characterization of sheep hepatocytes in primary culture
Roger Gutierrez-Juárez, Vicente Madrid-Marina and Enrique Piña	725	Adenosine effect on lactate and pyruvate production in the hypoxic guinea pig heart
Sheila Nadkarni and Sailen Mookerjee	731	Role of antiproteolytic heparin-binding serum protein(s) in modulating the levels of sialyl- and galactosyltransferase activity released during the incubation of rat jejunal slices
Magne Kongshaug, Johan Moan, Long Sheng Cheng, Greta M. Garbo, Stein Kolboe, Alan R. Morgan and Claude Rimington	739	Binding of drugs to human plasma proteins. Exemplified by Sn(IV) -etiopurpurin dichloride delivered in cremophor and DMSO
Yumiko Komori, Toshiaki Nikai and Hisayoshi Sugihara	761	Isolation and characterization of procoagulant from the venom of <i>Vipera aspis aspis</i>
Asok K. Sen	769	A block-diagrammatic approach to metabolic control analysis
Sam K. P. Kung and Herbert K. F. Lau	781	Characterization of immunotrap assays for urokinase plasminogen activator and its inhibitors and measurements of these molecules in human plasma and mouse macrophage in culture

Contents

Federico Licastro, Maria Cristina Morini, Olivier Kretz, Guy Dirheimer, Edmond Ekue Creppy and Fiorenzo Stirpe	789	Mitogenic activity and immunological properties of bolesatine, a lectin isolated from the mushroom <i>Boletus satanas</i> Lenz
Book Reviews	793	
New Patents Section	i	

Vol. 25, No. 6

Compendium

Ian G. Giles	795	A compendium of reviews in biochemistry and molecular biology published in the second half of 1992
--------------	-----	---

Minireviews

Federico Licastro, Lizabeth Jane Davis and Maria Cristina Morini	845	Lectins and superantigens: membrane interactions of these compounds with T lymphocytes affect immune responses
Eli-Katrin Kirkeide, Ian F. Pryme and Anni Vedeler	853	Microfilaments and protein synthesis; effects of insulin

General Papers

S. Colombatto and M. A. Grillo	865	Effect of Berenil on polyamine metabolism in primary cultured rat hepatocytes
B. L. Slomiany, V. L. N. Murty, J. Liu, J. Piotrowski, A. Czajkowski and A. Slomiany	869	Modulation of gastric mucosal calcium channel activity by mucus glycoprotein
Toshiaki Nikai, Yumiko Komori, Satoru Yagihashi, Akihito Ohara, Yasushi Ohizumi and Hisayoshi Sugihara	879	Isolation and characterization of phospholipase A ₂ from <i>Agkistrodon bilineatus</i> (common Cantil) venom
Niall S. Colwell, Jose A. Aleman-Gomez, Terry Sasser and Vijaya B. Kumar	885	Cloning and characterization of rabbit pancreatic colipase
Amalia Slomiany, Maria Grabska, Beatrix A. Slomiany, Ewa Grzelinska, Masonori Morita and Bronislaw L. Slomiany	891	Intracellular transport, organelle biogenesis and establishment of Golgi identity: impact of brefeldin A on the activity of lipid synthesizing enzymes
Patricio Meneses, J. Nelson Navarro and Thomas Glonek	903	Algal phospholipids by ³¹ P NMR: comparing isopropanol pretreatment with simple chloroform/methanol extraction
Hyeyoung Kim-Jun	911	Inhibitory effects of α - and β -carotene on croton oil-induced or enzymatic lipid peroxidation and hydroperoxide production in mouse skin epidermis
Waltraud Stammel, Robert Müller and Helmut Thomas	917	Demonstration of highly specific and sensitive antibodies to a naturally occurring tetrahydroisoquinoline alkaloid, salsolidine
Adriano Podestà, Monica Ruffini Castiglione, Silvana Avanzi and Giorgio Montagnoli	929	Molecular geometry of antigen binding by a monoclonal antibody against 5-methylcytidine
B. L. Slomiany, J. Piotrowski, A. Czajkowski, F. E. Shovlin and A. Slomiany	935	Differential expression of salivary mucin bacterial aggregating activity with caries status
I. Syrový and Z. Hodný	941	<i>In vitro</i> non-enzymatic glycosylation of myofibrillar proteins

Contents

Solomon F. Green and Lawrence M. Lewin	947	Metabolic roles of carnitine expressed through the carnitine acetyltransferase system in <i>Candida pintolopesii</i>
Book Reviews	955	
New Patents Section	i	

Vol. 25, No. 7

Minireview

Kia-Ki Han and Arlette Martinage	957	Post-translational chemical modifications of proteins—III. Current developments in analytical procedures of identification and quantitation of post-translational chemically modified amino acid(s) and its derivatives
----------------------------------	-----	---

General Papers

I. Zlatanov, E. Maltzeva, N. Borovok and V. Spassov	971	Effect of insulin and glucagon on the mobility of ESR-probes incorporated in rat liver plasma membranes
Mónica Lourdes Camacho, María José Bonete and Eduardo Cadenas	979	NAD-glutamate dehydrogenase from <i>Halobacterium halobium</i> : pH and chemical modification studies
Phillip Greenspan and Pingping Lou	987	Spectrofluorometric studies of Nile red treated native and oxidized low density lipoprotein
Tami Livnat, Malca Chen-Zion and Rivka Beitner	993	Uncoupling of mitochondrial oxidative phosphorylation abolishes the stimulatory action of insulin on the binding of glycolytic enzymes to muscle cytoskeleton
Urszula Wojda and Jacek Kuźnicki	999	Characterization of calyculin fragments obtained by CNBr-cleavage
Angel Herráez, Antonio Díaz, José Luque and José C. Díez	1009	Immunological relationship among rat erythrocyte membrane sialoglycoproteins and with human glycophorins
Rolf A. Løvstad	1015	Interaction of serum albumin with the Fe(III)-citrate complex
Fu-Yue Zeng, Volker Gerke and Hans-Joachim Gabius	1019	Identification of annexin II, annexin VI and glyceraldehyde-3-phosphate dehydrogenase as calyculin-binding proteins in bovine heart
Eva Kot and Anatoly Bezkorovainy	1029	Effects of Mg^{2+} and Ca^{2+} on Fe^{2+} uptake by <i>Bifidobacterium thermophilum</i>
Gina Piccinini, Massimo Bramucci, Ennio Maccari, Antonino Miano, Domenico Amici, Gian Luigi Gianfranceschi and Elena Cardellini	1035	<i>In vitro</i> phosphorylation of proteins tightly bound to DNA by protein kinase NII
Carmen Osuna, Jose M. Orta, Amalia Rubio, Patrocinio Molinero, and Juan M. Guerrero	1041	Thyroxine type II 5'-deiodinase activity in pineal and Harderian gland is enhanced by hypothyroidism but is independent of serum thyroxine concentrations during hyperthyroidism
H. Ogata, M. Kouyoumdjian and D. R. Borges	1047	Comparison between clearance rates of plasma kallikrein and of plasma kallikrein- α -macroglobulin complexes by the liver
V. K. Srivastava, M. D. Schroeder, S. M. Miller and D. L. Busbee	1053	A comparison of DNA polymerase α from untransformed and SV40-transformed human fibroblasts
Yoshinori Matsuo, Aizo Furukawa, Yutaka Tsuneoka, Jun-ichirou Ono and Yoshiyuki Ichikawa	1065	Characterization of the ferredoxin gene transcripts in bovine liver and brain

Contents

Zeev Ronai	1073	Glycolytic enzymes as DNA binding proteins
Christiane Lacombe, Viviane Viillard and Hervé Paris	1077	Identification of $\alpha 2$ -adrenoceptors and of non-adrenergic idazoxan binding sites in pancreatic islets from young and adult hamsters
Book Reviews	1085	
New Patents Section	i	

Vol. 25, No. 8

Minireviews

Molham Al-Habori	1087	Mechanism of insulin action, role of ions and the cytoskeleton
A. A. Boldyrev	1101	Does carnosine possess direct antioxidant activity?

General Papers

M. Eugenia Torres-Márquez, Salvador Mejia and Rafael Moreno-Sánchez	1109	Modulation of the ATP induced $[Ca^{2+}]_c$ increase in AS-30D hepatoma cells
A. Neşe Çokuğraş and E. Ferhan Tezcan	1115	Inhibition kinetics of brain butyrylcholinesterase by Cd^{2+} and Zn^{2+} , Ca^{2+} or Mg^{2+} reactivates the inhibited enzyme
Harry J. Mersmann, Ronald L. McNeel and Julian P. Heath	1121	Distribution of beta-adrenergic binding in fractionated porcine adipocytes
Stefano Bedino and Giovanni Testore	1133	Regulation by progesterone and pregnenolone of dimeric aldehyde dehydrogenase from rat testis cytoplasm
Hans Degens, Jacques H. Veerkamp, Herman T. B. van Moerkerk, Zdenek Turek, Louis J. C. Hoofd and Robert A. Binkhorst	1141	Metabolic capacity, fibre type area and capillarization of rat plantaris muscle. Effects of age, overload and training and relationship with fatigue resistance
Adela Cuéllar and Jorge Ramírez	1149	Further studies on the mechanism of action of gossypol on mitochondrial membrane
Seung Hee Park, Hyang Woo Lee, Sangduk Kim and Woon Ki Paik	1157	A peptide inhibitor for <i>S</i> -adenosyl-L-methionine-dependent transmethylation reactions. Purification and characterization
Miyako Ohta, Tsuyoshi Tanimoto, Akira Tanaka and Takao Hayakawa	1165	Conversion of a NADPH-dependent aldehyde reducing enzyme into aldose reductase
José Neptuno Rodríguez-López, Ramón Varón and Francisco García-Cánovas	1175	Oxidation of 6-hydroxydopamine catalyzed by tyrosinase
Andrée Maurice and Monique Malgat	1183	Phosphatidylethanolamine: ceramide-ethanolaminephosphotransferase activity in synaptic plasma membrane vesicles. Influence of some cations and phospholipid environment on transferase activity. Further proof of its location
Vera Mihajlovic, Osvaldo Cascone and Mirtha J. Biscoglio de Jiménez Bonino	1189	Oxidation of methionine residues in equine growth hormone by Chloramine-T
Berit I. Kristensen, Poul Kristensen and Anders H. Johnsen	1195	Identification of the major annexins in Ehrlich ascites tumor cells
A. Minelli, M. Moroni, L. Luzi and I. Mezzasoma	1203	Effects of adenine nucleotides on low K_m 5' nucleotidase from human seminal plasma

Contents

J. T. Borlakoglu, A. Scott, C. R. Wolf, J. Pangrekar and H. C. Sikka	1209	Treatment of lactating rats with PCBs induces CYP1A1 and enhances the formation of BP 7,8-dihydrodiol, the proximate carcinogen of benzo(a)pyrene
Book Reviews	1215	
New Patents Section	i	

Vol. 25, No. 9

General Papers

Thais M. P. C. Ferreira, Maria G. L. Medeiros, Carl P. Dietrich and Helena B. Nader	1219	Structure of heparan sulfate from the fresh water mollusc <i>Anomantidae</i> sp: sequencing of its disaccharide units
T. Oikawa, N. Ogura, M. Akiba, Y. Abiko, H. Takiguchi and H. Izumi	1227	Stimulation of plasmin activity in cultured human fibroblast cells by <i>Porphyromonas endodontalis</i>
Tomoyuki Terada, Nobuyuki Niwase, Isao Koyama, Mitsuo Imamura, Kazuhiko Shinagawa, Harumasa Toya, and Tadashi Mizoguchi	1233	Purification and characterization of carbonyl reductases from bovine liver cytosol and microsome. The cytosolic enzyme has a novel 3 α /17 β -hydroxysteroid dehydrogenase activity
Sebastiano Colombatto, Carlo Cravanzola and Maria Angelica Grillo	1241	<i>In vivo</i> effect of Berenil on rat liver polyamine metabolism
Hiroki Abe, Emiko Okuma, Hideo Sekine, Akio Maeda and Shohei Yoshiue	1245	Human urinary excretion of L-histidine-related compounds after ingestion of several meats and fish muscle
Christian H. Schleicher, Esteban C. Dell'Angelica and José A. Santomé	1251	Isolation and N-terminal sequence of two low molecular weight calcium-binding proteins from pig granulocytes
Marialice Kern, Terry A. Loomis, Edward B. Tapscott and G. Lynis Dohm	1257	Increased muscle glucose uptake in response to chronic glyburide treatment is not related to changes in glucose transporter (GLUT4) protein
A. D. Pemberton, H. R. P. Miller, H. A. John and C. L. Scudamore	1263	Comparative studies of the Spi1 proteins of three equine alpha-1-proteinase inhibitor haplotypes following isolation by affinity chromatography
Alessandra Baracca, Silvia Barogi, Giorgio Lenaz and Giancarlo Solaini	1269	Interactions and effects of 2-hydroxy-5-nitrobenzyl bromide on the bovine heart mitochondrial F ₁ -ATPase
A. K. Chakraborty and D. P. Chakraborty	1277	The effect of tryptophan on dopa-oxidation by melanosomal tyrosinase
B. L. Slomiany, Z. Fekete, V. L. N. Murty, M. Grabska, J. Piotrowski, F. Yotsumoto, A. Czajkowski and A. Slomiany	1281	Regulation of buccal mucosal calcium channel activity by salivary mucins
Bruce S. Winder, Jaffar Nourooz-Zadeh, R. Rivkah Isseroff, Mehran F. Moghaddam and Bruce D. Hammock	1291	Properties of enzymes hydrating epoxides in human epidermis and liver
Dagmar Záhner and Willy J. Malaisse	1303	Enzyme-to-enzyme tunnelling between phosphoglucosomerase and phosphofructokinase

Contents

Nadia J. Gavrilova, Milka S. Setchenska, Tania T. Markovska, Albena B. Momchilova-Pankova and Kamen S. Koumanov	1309	Effect of membrane phospholipid composition and fluidity on rat liver plasma membrane tyrosine kinase activity
D. Iny, A. Pinsky, M. Cojocaru and S. Grossman	1313	Lipoxygenase of <i>Thermoactinomyces vulgaris</i> , purification and characterization of reaction products
D. Iny, S. Grossman and A. Pinsky	1325	Lipoxygenase of the thermophilic bacteria <i>Thermoactinomyces vulgaris</i> —properties and study on the active site
J. Rzymowska and Z. Dyrda	1331	Enzyme activities and level of SH groups in breast carcinomas
S. J. Moench, J. E. Erman and J. D. Satterlee	1335	Species-specific differences in covalently crosslinked complexes of yeast cytochrome <i>c</i> peroxidase with horse and yeast iso-1 ferricytochromes <i>c</i>
Book Reviews	1343	

Vol. 25, No. 10

This issue includes a

FESTSCHRIFT IN HONOUR OF CLAUDE RIMINGTON'S 90TH BIRTHDAY

Johan Moan and Alcira M. C. Batlle	1347	Festschrift in honour of Claude Rimington's 90th birthday: Guest Editorial
Claude Rimington	1351	Was Hippocrates the first to describe a case of Acute Porphyria?
Michael R. Moore	1353	Review: Biochemistry of porphyria
Giulio Jori and Elena Reddi	1369	The role of lipoproteins in the delivery of tumour-targeting photosensitizers
David Kessel and Kathryn Woodburn	1377	Biodistribution of photosensitizing agents
C. Rimington and P. A. Riley	1385	The biochemical approach to cancer therapy: a short essay
Haydee Fukuda, Adriana Casas, Flores Chueke, Sergio Paredes and Alcira M. C. Batlle	1395	Photodynamic action of endogenously synthesized porphyrins from aminolevulinic acid, using a new model for assaying the effectiveness of tumoral cell killing
Z. Malik, T. Babushkin, S. Sher, J. Hanania, H. Ladan, Y. Nitzan and S. Salzberg	1399	Collapse of K ⁺ and ionic balance during photodynamic inactivation of leukemic cells, erythrocytes and <i>Staphylococcus aureus</i>
Haydee Fukuda, Alcira M. C. Batlle and P. A. Riley	1407	Kinetics of porphyrin accumulation in cultured epithelial cells exposed to ALA
G. Y. Kennedy	1411	Some reactions of porphyrins

ORDINARY PAPERS

Compendium

Ian G. Giles

- 1413 A compendium of reviews in biochemistry and molecular biology published in the first half of 1993

Review

Roland A. Coulson

- 1445 The Flow Theory of enzyme kinetics: role of solid geometry in the control of reaction velocity in live animals

General Papers

- Peter Rauko, Ladislav Novotný and Eliška Balážová 1475 DNA breakage and inactivation resulting from hydroxylamine and/or *cis*-diamminedichloroplatinum(II) interactions with plasmid DNA
- Anthony Soteriou and Anthony Cryer 1483 Purification and characterization of lipoprotein lipase from the white adipose, skeletal muscle, cardiac muscle, mammary gland and lung tissues of the rat
- Gabriel B. Nunez Burgos, Luis R. C. Gonçalves, M. Fátima D. Furtado, Wilson Fernandes and José Nicolau 1491 Alteration of the protein composition of *Bothrops jararaca* venom and venom gland by isoproterenol treatment
- L. Fontana, S. Colombatto and M. A. Grillo 1497 Regulation of spermidine transport in L1210 cells
- Nurten Türközkcan, Osman Durmus and Nuri Boran 1501 Biochemical investigation of leukocyte functions during lithium therapy
- Vincenzo Aurilia, Antonietta Palmisano, Lino Ferrara, Maria Vittoria Cubellis, Giovanni Sanna and Gennaro Marino 1505 Cloning and sequence analysis of a cDNA encoding bovine cytosolic aspartate aminotransferase
- Haider Raza and Hasan Mukhtar 1511 Differences in inducibility of cytochrome *P*-4501A1, mono-oxygenases and glutathione *S*-transferase in cutaneous and extracutaneous tissues after topical and parenteral administration of β -naphthoflavone to rats

*Vol. 25, No. 11***Minireviews**

- Angel Reglero, Leandro B. Rodríguez-Aparicio and José M. Luengo 1517 Polysialic acids
- Guilhua Lu and Robert J. Ferl 1529 Homopurine/homopyrimidine sequences as potential regulatory elements in eukaryotic cells

General Papers

- Walter Mlekusch, Christian Celedin, Roland C. Aloia and Reinhard Moller 1539 Effect of a high fat diet on phospholipid class distribution and fatty acid composition in rat liver
- Andrey G. Sergeev, Andrey R. Pavlov, Alexandra A. Revina and Alexander I. Yaropolov 1549 The mechanism of interaction of ceruloplasmin with superoxide radicals
- Nerida Cole and Gregory B. Ralston 1555 The self-association of ovine erythrocyte spectrin
- P. A. Wals and J. Katz 1561 The effect of D₂O on glycolysis by rat hepatocytes
- Giuliana Leoncini, Enrica Buzzi and Barbara Aprile 1565 S-D-Lactoylglutathione accumulation in activated human platelets
- S. Blachowski, T. Motyl, A. Orzechowski, Katarzyna Grzelkowska and Bożena Interewicz 1571 Comparison of metabolic effects of EGF, TGF- α , and TGF- β 1 in primary culture of fetal bovine myoblasts and rat L6 myoblasts
- Giann-Wu Wei, Chi-Ming Chang and Ling-Wen Chang 1579 Differential responses in cyclic GMP formation induced by excitatory amino acids (EAA) and sodium nitroprusside (SNP) in various regions of the brain and of rats of varied age

Contents

Marie Novak, Claudia Hudspeth and Barry J. Blackburn	1587	¹ H NMR study of metabolic alterations in the small intestine of rats infected with <i>Hymenolepis diminuta</i>
H. Grote, I. Ioannou, J. Voigt and C. E. Sekeris	1593	Localization of the glucocorticoid receptor in rat liver cells: evidence for plasma membrane bound receptor
R. N. Butler, W. J. Butler, D. Antoniou and V. Pascoe	1601	Effect of dehydroepiandrosterone on pentose phosphate pathway activity in the rat colon
Takao Sugiura, Hirofumi Miyata, Yosuke Kawai, Hideki Matoba and Naotoshi Murakami	1609	Changes in myosin heavy chain isoform expression of overloaded rat skeletal muscles
Toshikatsu Nakabayashi, Youko Matsuoka, Ryo Taguchi, Hiroh Ikezawa, Hideo Nakane, Katsuhiko Ono and Yukio Kimura	1615	Alkaline phosphodiesterase I release from eucaryotic plasma membranes by phosphatidylinositol-specific phospholipase C III. The release from tumor cells
Cristina Baiocchi, Rossana Pesi, Maura Turriani, Maria Grazia Tozzi, Marcella Camici and Piero Luigi Ipata	1625	Membrane-bound 5'-nucleotidase/nucleoside phosphotransferase from <i>Bacillus cereus</i>
Keiko Iwami and Tadashige Moriyama	1631	Effects of short chain fatty acid, sodium butyrate, on osteoblastic cells and osteoclastic cells
Lakshmaiah Sreerama and Patnagere C. Veerabhadrapa	1637	Isolation and properties of carboxylesterases of the termite gut-associated fungus, <i>Xylaria nigripes</i> K., and their identity from the host termite, <i>Odontotermes horni</i> W., mid-gut carboxylesterases
Kei-ichi Shimazaki, Ayano Kawaguchi, Tetsuya Sato, Yukari Ueda, Toshio Tomimura and Seizo Shimamura	1653	Analysis of human and bovine milk lactoferrins by Rotofor and chromatofocusing
J. T. Borlakoglu, A. Scott, C. J. Henderson and C. R. Wolf	1659	Expression of P450 isoenzymes during rat liver organogenesis
Shyamal Premaratne, Morton Mandel and Howard F. Mower	1669	Identification of DNA adducts at specific locations by sequencing techniques
Harry J. Mersmann and Alla Shparber	1673	Is the lipolytic response in porcine adipose tissue slices equivalent to the lipolytic response in isolated adipocytes?
Tomoaki Tanaka and Eiji Ichishima	1681	Molecular properties of aminopeptidase Ey as a zinc-metalloenzyme
Timothy C. Mueser and Lawrence J. Parkhurst	1689	Synthesis of dansyl ribonucleotides and their use in steady-state fluorescence anisotropy studies of nucleotide binding by initiation factor-2 (eIF-2) and Histone H1
Book Reviews	1697	
		Vol. 25, No. 12
Announcement	iii	
Minireviews		
Françoise Schoentgen, Sophie Bucquoy, Nadia Seddiqi and Pierre Jollès	1699	Two cytosolic protein families implicated in lipid-binding: main structural and functional features
Parveen Yaqoob and Philip C. Calder	1705	The effects of fatty acids on lymphocyte functions
Arnold de Loof	1715	Schrödinger 50 years ago: "What is Life?" "The ability to communicate", a plausible reply?

Contents

General Papers

- Masataka Yoshino and Keiko Murakami 1723 Role of glutamate dehydrogenase reaction in the control of citrate pool in yeast
- Glauce Maria Nunes Araujo, Adriana Rayol Pedrenho and Aida Hasson-Voloch 1729 The effect of mercury and aluminum on sodium-potassium-Mg²⁺ dependent-adenosine triphosphatase activity of *Electrophorus electricus* (L.) electrocyte
- Howard H. T. Hsu, David C. Morris, Lori Davis, Paul Moylan and Clarke H. Anderson 1737 *In vitro* Ca deposition by rat matrix vesicles: is the membrane association of alkaline phosphatase essential for matrix vesicle-mediated calcium deposition?
- Pierre Chapdelaine, Claude Lazure, David Deperthes, Roland R. Tremblay and Jean Y. Dube 1743 The major dog pancreas protein recognized by an antiserum to dog prostate kallikrein is the anionic trypsin
- Melinda Griffiths, David Keast, G. Patrick, M. Crawford and T. Norman Palmer 1749 The role of glutamine and glucose analogues in metabolic inhibition of human myeloid leukaemia *in vitro*
- Armorel D. van Eyk, Derek Litthauer and Willem Oelofsen 1757 Mitochondrial and peroxisomal fractions derived from human white adipocytes
- N. Koçak-Toker, Ü. Mutlu-Türkoglu, N. Alptekin and M. Uysal 1765 Effect of depletion of glutathione by buthionine sulfoximine on lipid peroxidation in rats acutely treated with ethanol
- Michiro Otaka, Hideaki Itoh, Toshiyuki Kuwabara, Akira Zeniya, Shusei Fujimori, Yohtalou Tashima and Osamu Masamune 1769 Induction of a 60-kDa heat shock protein in rat pancreas by water-immersion stress
- Shuhei Tomita, Maki Tsujita, Yoshinori Matsuo, Toshitsugu Yubisui and Yoshiyuki Ichikawa 1775 Identification of a microsomal retinoic acid synthase as a microsomal cytochrome P-450-linked monooxygenase system
- Ana I. Maneva, Borislava M. Taleva, Vladi V. Manev and Ljuben M. Sirakov 1785 Effect of bovine milk antigens and egg lysozyme on the binding of ⁵⁹Fe-lactoferrin to platelet plasma membranes
- Alexei Medvedev, Alexandra Kirkel, Natalia Kamysanskaya and Vladimir Gorkin 1791 Lipid peroxidation affects catalytic properties of rat liver mitochondrial monoamine oxidases and their sensitivity to proteolysis
- Hirofumi Ito, Mikinori Torii and Tsuneyuki Suzuki 1801 A comparative study on lipid peroxidation in cerebral cortex of stroke-prone spontaneously hypertensive and normotensive rats
- Chinnaswamy Kasinathan, Pazhani Sundaram, Bronislaw L. Slomiany, V. L. N. Murty and Amalia Slomiany 1807 Calcium transport and calcium activated ATPase activity in microsomal vesicles of rat gastric mucosa
- Toshiaki Nikal, Yoshiyuki Okumura, Youichi Hasegawa, Keiichi Uchiya, Kazuhito Kamiya and Hisayoshi Sugihara 1815 Isolation and characterization of fibrinogenase from *Candida albicans* NH-1
- P. Lloyd-Evans 1823 Purification and characterization of high molecular weight (HMW) and low molecular weight (LMW) immunoglobulins from the serum of the dogfish, *Scyliorhinus canicula*, and the identification of antibody forming tissues
- C. D. Lindsay and J. C. Anderson 1835 Bovine aorta contains at least two related forms of heparan sulphate proteoglycan

Contents

Nancy del Hoyo, Juan A. Pulido and Miguel A. Pérez-Albarsanz	1849	Effect of lindane on phosphatidylinositol synthesis by cerebral cortex after acute and subchronic treatment
Jun Suzuki, Sumiko Kimura and Koscak Maruyama	1853	Connectin content in rabbit cardiac and skeletal muscle
Hugo P. Monteiro, Yuri Ivaschenko, Roland Fischer and Arnold Stern	1859	Ascorbic acid inhibits protein tyrosine phosphatases in NIH 3T3 cells expressing human epidermal growth factor receptors
Marek Mirowski, Zbigniew Walaszek, Ute Sherman and Malgorzata Hanausek	1865	Comparative structural analysis of human and rat 65 kDa tumor-associated phosphoproteins
Marvin Rubenstein, Sergey Muchnik, Sandra L. Garber, Jose A. L. Arruda and George Dunea	1873	Differential effect of xanthopterin and biopterin on cell growth
Mariele Briand, Gerard Boissonnet, Valerie Laplace-Marieze and Yves Briand	1881	Metabolic and contractile differentiation of rabbit muscles during growth
R. Varón, B. H. Havsteen, E. Valero, C. Garrido-del Solo, J. N. Rodríguez-López and F. García-Cánovas	1889	The kinetics of an enzyme catalyzed reaction in the presence of an unstable, irreversible modifier
F.-Q. Zhao, D. R. Glimm and J. J. Kennelly	1897	Distribution of mammalian facilitative glucose transporter messenger RNA in bovine tissues
Maria S. Goncharenko, Elen A. Kosenko and Yury G. Kaminsky	1905	Energy metabolism of human erythrocytes in psoriasis
Maria J. Hidalgo, Luis M. Gutierrez, Mercedes Palmero, Juan J. Ballesta, Juan A. Reig and Salvador Viniegra	1909	Solubilization, characterization and photoaffinity labeling of the mitochondrial dihydropyridine receptor from bovine adrenal medulla
Mariana Bermúdez Moretti, Susana Correa García, Carlos Stella, Eugenia Ramos and Alcira M. del C. Batlle	1917	δ -Aminolevulinic acid transport in <i>Saccharomyces cerevisiae</i>
Yoon Soo Kim and Sang Hwan Oh	1925	Purification and some properties of apurinic/apyrimidinic DNA endonucleases in rat liver
Laura Manca, Pasquale Ferranti, Francesca Barone, Gianpaolo Nitti, Antonio Malorni, Piero Pucci, Salvatore Naitana and Bruno Masala	1935	Sheep haemoglobin I or $\beta^{13}(A10)Gly \rightarrow Ser$: an example of a CpG mutation in vertebrates. Characterization using FAB-mass spectrometry and amino acid sequencing
R. Vestri, E. Pieragostini, Laura Manca and Bruno Masala	1939	Detection by reversed-phase HPLC of trace amounts of the α^{113His} globin chain in a sheep homozygous for a quadruple α -globin gene chromosome
Pasquale Ferranti, Virginia Carbone, Nicola Sannolo, Immacolata Fiume and Antonio Malorni	1943	Mass spectrometric analysis of rat hemoglobin by FAB-overlapping. Primary structure of the α -major and of four β constitutive chains
José A. Enríquez, Acisclo Pérez-Martos, Patricio Fernández-Silva, Manuel J. López-Pérez and Julio Montoya	1951	RNA synthesis in isolated mitochondria from brain cortex, cerebellum and stem: evidence of different transcriptional rates

Contents

Aleksandra Kubicz and Agata Szalewicz	1957	Characterization of the type of carbohydrate chains of the higher molecular weight (140 kDa) acid phosphatase of the frog liver
María M. Sola, F. Javier Oliver, Rafael Salto, Margarita Gutiérrez and Alberto M. Vargas	1963	Regulation of rat-kidney cortex Fructose-1,6-bisphosphatase activity. I. Effects of Fructose-2,6-bisphosphate and divalent cations
María M. Sola, F. Javier Oliver, Rafael Salto, Margarita Gutiérrez and Alberto M. Vargas	1969	Regulation of rat-kidney cortex Fructose-1,6-bisphosphatase activity. II. Effects of adenine nucleotides
Bjørn Forbord and Harald Osmundsen	1975	Isolation of DNA and RNA from <i>Streptococcus sobrinus</i> OMZ176 using CsTFA gradients
Book Reviews	1981	

